

PATENT

Attorney Docket No. A-72192/DJB/VEJ/RBE  
Attorney Matter No. 463805-00248  
Application No. 10/759,751

**REMARKS**

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendments, claims 1-6 and 8-19 are pending in the application, with claims 1, 8, and 13 being the independent claims. Claim 7 has been canceled without prejudice or disclaimer. Claim 8 has been amended merely to eliminate redundancy and more particularly describe the present invention. Support for the subject matter of the amended claims is contained in the application as originally filed. Because the foregoing changes introduce no new matter, their entry is respectfully requested.

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 103******Claims 1-6 and 18***

The Examiner has rejected claims 1-6 and 18 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,470,998 to White ("White") and U.S. Patent No. 5,290,974 to Douglas et al. ("Douglas"). White and Douglas, taken individually or combined, fail to teach or suggest the end cap of the present invention including an end wall and a tubular member defining an inlet/outlet port and dimensioned and configured *to receive an exhaust pipe* wherein the tubular member is *monolithically formed with the end wall and said mounting structure of a single sheet of material*, as is called for by independent claim 1.

White does not disclose such features. Instead, White discloses a modular muffler having flanged open ends 14 and 16 having end adaptor plates 20 and 21 and tubular extensions 23. *See, e.g. FIG. 1.* The tubular extensions and adaptor plates are separately formed and then assembled in a conventional fashion. As noted by the Examiner, however, White fails to teach or suggest the plates and extensions being monolithically formed. *See Office Action* mailed December 13, 2005 ("Office Action"), page 2.

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Douglas fails to make up for the deficiencies of White. Douglas is directed towards a mechanism for aligning a series of muffler conduits to each other or to a muffler head. Douglas discloses a muffler head 44 having a flange-like tubular projection 46 defining a muffler chamber port and adapted to receive a nipple 56. The nipple, in turn, receives an exhaust conduit or pipe 78 thereover. *See, e.g., Douglas, FIG. 4 and col. 6, lines 9-28.* The projection includes a tab 50 configured to align with a notch 66 on an exhaust conduit. *Id.*

In contrast to the present invention, Douglas's projection is not *dimensioned and configured to receive an exhaust pipe*. Douglas's projection is dimensioned and configured to receive nipple 56 and align with an exhaust pipe fit over the nipple. The projection cannot receive the exhaust pipe directly. In fact, Douglas explicitly teaches away from the projection 36 directly receiving an exhaust pipe, and instead teaches that projection 36 has the same or similar dimensions of an exhaust pipe (e.g., the inner diameter of projection 36 is the same as the inner diameter of an exhaust pipe). As such, projection 36 inherently cannot receive an exhaust pipe. Moreover, Douglas is directed towards promoting the alignment of exhaust conduits with the muffler head during assembly and discusses the problems inherent in such structures without an alignment mechanism. *See Douglas, col. 1, lines 15-30.*

Additionally, as noted in the Response filed September 19, 2005, the nipple is separate and distinct from the projection. In contrast, end cap 30 of the present invention includes a *monolithically formed* end wall 35 and tubular inlet/outlet pipe 36. *See Specification, page 9, paragraph 45 and FIG. 4.* Such a configuration eliminates the need for welding to attach a pipe to the end wall. *See, e.g., Specification, page 14.*

Furthermore, Douglas is silent as to the mounting structure of muffler head 44. As such, Douglas fails to account for the deficiencies of White. Neither Douglas or White teach or suggest an end cap monolithically formed with a tubular member *and* mounting structure.

Applicant further traverses the rejection on the ground that there is no motivation to combine the references. To establish a *prima facie* case of obviousness, there must be some suggestion or motivation to combine the reference teachings. *See M.P.E.P. § 2142.* Applicant

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respectfully submits that the Examiner has failed to point to such suggestion or motivation either from the references themselves or in the knowledge generally available to one skilled in the art.

White is directed to a muffler adapted for use with a variety of exhaust systems and internal combustion engines. *See White, Background of the Invention.* White discloses a modular muffler including end plates adjustable relative to the body of the muffler in order to vary the internal volume of the body. *See White, Abstract.*

Douglas, however, is directed to an entirely different goal of providing an exhaust system configured for alignment of the exhaust conduits and muffler during manufacturing and assembly. *See Douglas, Background of the Invention.* To this end, Douglas discloses a key and notch system for aligning a conduit to the muffler. *See, e.g., FIG. 4.* Because White and Douglas are directed to different goals and problems, there is no suggestion within the references to combine.

The Examiner indicates that "it would have been obvious to a person with ordinary skill in the art to employ the "monolithic projection and muffler head with the design of White "because the monolithic configuration would provide a quicker process of manufacturing, ... economizing time and cost." *See Office Action, page 3.* Applicant respectfully disagrees.

First, Applicant respectfully submits that the argument made by the Examiner is factually inaccurate. As explained in Douglas, conventional exhaust systems employ long, twisted pipes requiring precise alignment. As understood in the art, therefore, monolithic fabrication with such tight manufacturing tolerances can be as much or more expensive than aligning two pieces by hand and fastening.

Second, the Examiner has failed to point to a particularized motivation to combine the reference teachings. Instead, the Examiner vaguely indicates that cost and time savings would motivate one skilled in the art to combine the references. Additionally, the bare level of skill in the art cannot be relied upon to provide the suggestion to combine. *See M.P.E.P. § 2143.01.* The knowledge of one skilled in the art must suggest combination of the references. *Id.* Given

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the myriad manufacturing and design variables, one skilled in the art would not necessarily choose monolithically forming the end cap and tubular member versus other fabrication techniques. In fact, as indicated in the specification of the present application, conventional manufacturing currently involves forming the end cap and tubular member as separate structures. Thus, one skilled in the art would not have been motivated to combine the teachings of White with monolithic manufacturing techniques as suggested by the Examiner.

Finally, Applicant respectfully submits that one would not expect success in combining the teachings of White and Douglas. In order to establish a prima facie case of obviousness, there must be a reasonable expectation of success. *See* M.P.E.P. § 2143.02. One skilled in the art would not expect success in combining the teachings of White with Douglas because of the problems mentioned by Douglas in aligning exhaust components.

Further, "if the proposed modification would render the prior art ... unsatisfactory for its intended purpose, then there is no suggestion to combine." *See* M.P.E.P. § 2143.01(V). White discloses use of adjustable end plates to vary the internal volume of the muffler. In contrast, Douglas discloses projections from the end plates. Thus, modification of the White muffler wall and extensions with the monolithic projection taught by Douglas would defeat the adjustability to which White is directed.

For at least these reasons, Applicant respectfully submits that White and Douglas, taken individually or combined, do not anticipate or render obvious independent claim 1. Applicant submits that claims 2-6 and 18, which depend from claim 1, are allowable over the cited art for at least the same reasons noted above.

### ***Claim 3***

The Examiner has rejected dependent claim 3 under 35 U.S.C. § 103 as being unpatentable over White and Douglas. In addition to the reasons above, White and Douglas, taken individually or combined, fail to teach or suggest the end cap of the present invention including said peripheral shoulder defining a stepped land and a substantially flat outer surface.

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As noted above, White discloses flanged open ends 14 and 16 having end adaptor plates 20 and 21 and tubular extensions 23. *See, e.g., White, FIG. 1.* Although White discloses a projecting portion from the end cap as illustrated in FIGs. 11-14, the projection has a half-spherical shape without a stepped land portion or a flat outer surface as called for by claim 3.

Douglas fails to make up for the deficiencies of White. As noted above, Douglas discloses a muffler head 44 having a flange-like tubular projection 46. *See, e.g., Douglas, FIG. 4.* Nowhere in the specification and figures does Douglas disclose or even suggest anything other than a flat end wall. Douglas further fails to teach or suggest a shoulder projection having a stepped land and a substantially flat outer surface.

For at least these reasons, Applicant respectfully submits that White and Douglas, taken individually or combined, do not anticipate or render obvious dependent claim 3.

#### ***Claims 8-12***

The Examiner has rejected claims 8-12 under 35 U.S.C. § 103 as being unpatentable over White and Douglas. The arguments made above with respect to claim 1 are asserted again here. White and Douglas, taken individually or combined, fail to teach or suggest the method of the present invention including the step of *monolithically forming an end wall, a mounting structure, and a tubular member* from a single flat metal blank, as is called for by independent claim 8.

As noted above, White discloses a modular muffler having end adaptor plates 20 and 21 and tubular extensions 23 but fails to teach or suggest monolithically forming the adaptor plates and extensions.

Douglas fails to teach or suggest the tubular member called for by claim 13. Instead, Douglas discloses a muffler head 44 having a tubular projection 46 adapted to receive a nipple 56. In contrast to the projection taught by Douglas, claim 13 calls for a tubular member monolithically formed with the end wall.

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As understood in the art, the *tubular member* of the present invention is different from the *tubular projection* of Douglas. Whereas the Douglas projection forms a flange from the end wall configured to receive the nipple, the present invention is directed towards providing a tubular member to carry exhaust gases into and out of the muffler. The Douglas projections merely receive and form a seal with the nipple. *See* Douglas, col. 5, lines 31-35. As such, Douglas teaches a projection having the same dimensions of an exhaust pipe, and not dimensioned to receive one.

Further, Douglas teaches away from modifying the projections in accordance with the present invention. If the projections taught by Douglas were extended and configured to carry exhaust gases, then the nipple would be fully enclosed and unable to receive the exhaust conduit. In the alternative, if the nipple were received further from the muffler head, the alignment performed by the nipple and notch may become skewed.

For at least these reasons, Applicant respectfully submits that White and Douglas, taken individually or combined, do not anticipate or render obvious independent claim 8. Applicant submits that claims 9-12, which depend from claim 8, are allowable over the cited art for at least the same reasons noted above.

### ***Claims 13-19***

The Examiner has rejected claims 13-19 under 35 U.S.C. § 103 as being unpatentable over White and Douglas. The arguments made above with respect to claims 1 and 8 are asserted again here. White and Douglas, taken individually or combined, fail to teach or suggest the muffler of the present invention including the forward end cap and rearward end cap including *monolithically* formed forward and rearward ends walls, respective forward and rearward mounting structures, and respective inlet and outlet *tubes* dimensioned and configured to receive *exhaust pipes*, as is called for by independent claim 13.

As noted above, White discloses end adaptor plates 20 and 21 and tubular extensions 23 but fails to teach or suggest monolithically forming the adaptor plates and extensions.

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Douglas fails to teach or suggest the inlet and outlet tubes called for by claim 13. Instead, Douglas discloses a muffler head 44 having a tubular projection 46 adapted to receive a nipple 56, not an exhaust pipe. In contrast to the projection taught by Douglas, claim 13 calls for a forward end cap including a forward end wall and inlet tube dimensioned and configured to receive an exhaust pipe and a similar rearward end cap.

For at least these reasons, Applicant respectfully submits that White and Douglas, taken individually or combined, do not anticipate or render obvious independent claim 13. Applicant submits that claims 14-17 and 19, which depend from claim 13, are allowable over the cited art for at least the same reasons noted above.

### ***CONCLUSION***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extension of time or additional claims, and/or credit any overpayment to Deposit Account No. 50-2319 (Order No. 463805-00248; Docket No. A-72192/DJB/VEJ/RBE).

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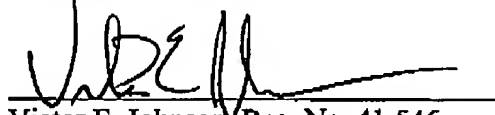
Prompt and favorable consideration of this Amendment and Response is respectfully requested

Respectfully submitted,

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Date: June 13, 2006

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